



**Proposal for Evaluation of Artificial Recharge Potential
and Automated Monitoring of Groundwater Levels in
California Statewide Groundwater Elevation Monitoring
Wells**

Merced Groundwater Basin
Merced, California

Submitted to:

**California Department of Water Resources
Sacramento, California**

Submitted by:

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4.0 *Attachment 4 Project Description - Evaluation of Artificial Recharge Potential and Automated Monitoring of Groundwater Levels in CASGEM Wells, Merced Groundwater Basin*

MID, a member agency in the MAGPI, has been monitoring groundwater levels in up to 290 monitoring and production wells on an annual basis since 1959 and on a monthly basis since 1991 within portions of the Merced Groundwater Basin (MGWB, Figure 1). Long-term hydrographs of selected wells show that portions of the MGWB are in a state of over-draft due to excessive pumping of groundwater. Between 1959 and 2006, average groundwater levels have declined about 28.5 feet. To help alleviate over-draft, MID has implemented a number of conservation programs and in-lieu recharge programs. MID has also implemented a pilot direct recharge project at the Cressey Basin facility (in northwest Merced Basin), which has the potential to recharge up to 20,000 acre-feet per year when surface water is available.

To expand upon existing efforts, MAGPI has authorized its agent, MID, to secure a grant from the California Department of Water Resources (DWR) to evaluate the potential for artificial recharge in the vicinity of El Nido (in southwest Merced Basin). Groundwater levels have declined approximately 30 to 35 feet in this area since the mid 1980's (Figure 2). Infiltration of surface water, when available, in the recharge basin(s) will help alleviate groundwater declines in this area.

In addition, MAGPI has authorized MID, to install continuously recording dataloggers to monitor groundwater elevations in selected observation and production wells at strategic locations within the MGWB. These wells are being monitored as part of the California Statewide Groundwater Elevation Monitoring program (CASGEM) authorized by SBX7 6, enacted in November 2009. High frequency monitoring of groundwater elevations in these wells will provide a base line of data for evaluation of seasonal variations in groundwater levels, impacts from pumping, and impacts from recharge.